



Complete Summary

GUIDELINE TITLE

ACR Appropriateness Criteria™ for percutaneous catheter drainage of infected intra-abdominal fluid collections.

BIBLIOGRAPHIC SOURCE(S)

Duszak RL, Levy JM, Akins EW, Bakal CW, Denny DD, Martin LG, Van Moore A, Pentecost MJ, Roberts AC, Vogelzang RL, Kent KC, Perler BA, Resnick MI, Richie J, Priest E. Percutaneous catheter drainage of infected intra-abdominal fluid collections. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun; 215(Suppl): 1067-75. [32 references]

COMPLETE SUMMARY CONTENT

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INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT

CATEGORIES

IDENTIFYING INFORMATION AND AVAILABILITY

SCOPE

DISEASE/CONDITION(S)

Intra-abdominal abscess

GUIDELINE CATEGORY

Treatment

CLINICAL SPECIALTY

Gastroenterology
Radiology

INTENDED USERS

Health Plans
Hospitals

Managed Care Organizations
Physicians
Utilization Management

GUIDELINE OBJECTIVE(S)

To evaluate the appropriateness of treatment of intra-abdominal abscesses with percutaneous abscess drainage

TARGET POPULATION

Patients with intra-abdominal abscesses

INTERVENTIONS AND PRACTICES CONSIDERED

Percutaneous abscess drainage using an image-guided catheter

MAJOR OUTCOMES CONSIDERED

- Morbidity or mortality associated with intra-abdominal abscesses
- Improved care

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of recent peer-reviewed medical journals, primarily using the National Library of Medicine's MEDLINE database. The developer identified and collected the major applicable articles.

NUMBER OF SOURCE DOCUMENTS

The total number of source documents identified as the result of the literature search is not known.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Delphi Method)
Weighting According to a Rating Scheme (Scheme Not Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

One or two topic leaders within a panel assume the responsibility of developing an evidence table for each clinical condition, based on analysis of the current literature. These tables serve as a basis for developing a narrative specific to each clinical condition.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Since data available from existing scientific studies are usually insufficient for meta-analysis, broad-based consensus techniques are needed to reach agreement in the formulation of the Appropriateness Criteria. Serial surveys are conducted by distributing questionnaires to consolidate expert opinions within each panel. These questionnaires are distributed to the participants along with the evidence table and narrative as developed by the topic leader(s). Questionnaires are completed by the participants in their own professional setting without influence of the other members. Voting is conducted using a scoring system from 1-9, indicating the least to the most appropriate imaging examination or therapeutic procedure. The survey results are collected, tabulated in anonymous fashion, and redistributed after each round. A maximum of three rounds is conducted and opinions are unified to the highest degree possible. Eighty (80) percent agreement is considered a consensus. If consensus cannot be reached by this method, the panel is convened and group consensus techniques are utilized. The strengths and weaknesses of each test or procedure are discussed and consensus reached whenever possible.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria and the Chair of the American College of Radiology Board of Chancellors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

ACR Appropriateness Criteria™

Interventional Procedure: Percutaneous Catheter Drainage of Infected Intra-abdominal Fluid Collections

Variant 1: Percutaneous abscess drainage for simple abscess.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
• Pain	8	
• Systemic infection (sepsis, fever, night sweats)	8	
• Trauma	8	
• Asymptomatic	7	
• Inappropriate or no antibiotics	2	
• Known cancer	No Consensus	
Physical Examination		
• Focal abdominal findings	8	
• Ascites	4	
Laboratory Findings		

• Gram stain (+)	8	
• Gram stain (-)	7	
• Uncorrected bleeding disorder	3	
• Fine needle aspiration (FNA) biopsy (+) for cancer	3	
Imaging Findings		
• Deep lesion	7	
• Ascites	4	
• No safe route on computed tomography (CT)	2	
Other		
• Poor surgical risk	8	
• Multiorgan system failure syndrome	8	
• Associated surgical lesion	3	
<p align="center"><u>Appropriateness Criteria Scale</u></p> <p align="center">1 2 3 4 5 6 7 8 9</p> <p align="center">1=Least appropriate 9=Most appropriate</p>		

Variant 2: Percutaneous abscess drainage for complex abscess.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		

• Pain	8	
• Systemic infection symptoms	8	
• Trauma	6	
• Asymptomatic	4	
• Known cancer	4	
• Inappropriate or no antibiotics	2	
Physical Examination		
• High output fistula	8	
• Low output fistula	8	
• Focal abdominal findings	8	
• Ascites	4	
Laboratory Findings		
• Gram stain (+)	8	
• Gram stain (-)	6	
• Uncorrected bleeding disorder	2	
• Fine needle aspiration biopsy (+) for cancer	2	
• More than 3 tubes required	2	
Imaging Findings		

• Ascites	4	
• No safe route on computed tomography	2	
• Deep lesion	No Consensus	
Other		
• Poor surgical risk	8	
• Multiorgan system failure syndrome	7	
• Associated surgical lesion	3	
<p align="center"><u>Appropriateness Criteria Scale</u></p> <p align="center">1 2 3 4 5 6 7 8 9</p> <p align="center">1 =Least appropriate 9=Most appropriate</p>		

Variant 3: Percutaneous abscess drainage of liver abscess.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
• Pain	8	
• Systemic infection symptoms	8	
• Trauma	6	
• Known cancer	4	
• Inappropriate or no antibiotics	2	

• Asymptomatic	No Consensus	
Physical Examination		
• Focal abdominal findings	8	
• Ascites	4	
Laboratory Findings		
• Gram stain (+)	8	
• Gram stain (-)	6	
• Uncorrected bleeding disorder	4	
• Fine needle aspiration biopsy (+) for cancer	3	
• Amoebic antibody titer > 1:32	2	
Imaging Findings		
• Deep lesion with ascites	2	
• Multiple small (2 cm or less) lesions	2	
• No safe route on computed tomography	2	
Other		
• Poor surgical risk	8	
• Multiorgan system failure syndrome	8	

<u>Appropriateness Criteria Scale</u>		
1 2 3 4 5 6 7 8 9		
1=Least appropriate 9=Most appropriate		

Variant 4: Percutaneous abscess drainage of infected pancreatic fluid collection.

Presentation/Signs/Symptoms	Appropriateness Rating	Comments
History		
• Pain	8	
• Systemic infection symptoms	8	
• Trauma	6	
• Asymptomatic	4	
• Known cancer	4	
• Inappropriate or no antibiotics	2	
Physical Examination		
• Focal abdominal findings	6	
• Ascites	4	
Laboratory Findings		
• Gram stain (+)	8	
• Gram stain (-)	4	
• Fine needle aspiration biopsy	2	

(+) for cancer		
• Uncorrected bleeding disorder	2	
Imaging Findings		
• Abscess	8	
• Pseudocyst	8	
• Ascites	4	
• Phlegmon	2	
Other		
• Poor surgical risk	8	
• Multiorgan system failure syndrome	6	
<p style="text-align: center;"><u>Appropriateness Criteria Scale</u></p> <p style="text-align: center;">1 2 3 4 5 6 7 8 9</p> <p style="text-align: center;">1=Least appropriate 9=Most appropriate</p>		

Summary

In summary, the following situations appear to be valid indications for percutaneous abscess drainage:

1. All simple abscesses with safe drainage routes (no traversal of uninvolved organs/structures and no direct contact between drainage tube and major blood vessels)
2. Most complex abscesses with safe drainage routes
3. Pyogenic liver abscesses, when single or limited in number
4. Infected pseudocysts

In the following settings, the role of percutaneous abscess drainage is less certain:

1. Pancreatic abscesses
2. Splenic abscesses
3. Infected necrotic tumors

The following should probably be treated by other methods:

1. Amoebic and echinococcal hepatic abscesses
2. Multiple small liver abscesses
3. Liver or other deeply situated (8 cm or greater from skin) abscesses with ascites or coagulopathy.

Percutaneous abscess drainage should be considered cautiously and with skepticism in non-curative settings except when attempting to create a sterile environment for single stage gastrointestinal surgical repair or when surgical risk is thought to be excessive.

With regard to technique, confirmation of infection with Gram's stain, exclusion of tumor by cytology (when clinically appropriate), predrainage treatment with appropriate antibiotics, meticulous delineation of disease, careful route planning (often with computed tomography), and an amoebic indirect hemagglutination antibody titer of less than 1:32 (liver only) are the keys to achieving success comparable to literature reports. Significant coagulopathies should be corrected pre-procedurally.

CLINICAL ALGORITHM(S)

Algorithms were not developed from criteria guidelines.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on analysis of the current literature and expert panel consensus.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate treatment of infected intra-abdominal fluid collections.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

An American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those exams generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Duszak RL, Levy JM, Akins EW, Bakal CW, Denny DD, Martin LG, Van Moore A, Pentecost MJ, Roberts AC, Vogelzang RL, Kent KC, Perler BA, Resnick MI, Richie J, Priest E. Percutaneous catheter drainage of infected intra-abdominal fluid collections. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun; 215(Suppl): 1067-75. [32 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1996 (revised 1999)

GUIDELINE DEVELOPER(S)

American College of Radiology - Medical Specialty Society

SOURCE(S) OF FUNDING

The American College of Radiology (ACR) provided the funding and the resources for these American College of Radiology Appropriateness Criteria™.

GUIDELINE COMMITTEE

American College of Radiology Appropriateness Criteria™ Committee, Expert Panel on Interventional Radiology

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Panel Members: Richard L. Duszak, Jr., MD; Jonathan M. Levy, MD; E. William Akins, MD; Curtis W. Bakal, MD; Donald F. Denny, Jr., MD; Louis G. Martin, MD; Arl Van Moore, Jr., MD; Michael J. Pentecost, MD; Anne C. Roberts, MD; Robert L. Vogelzang, MD; K. Craig Kent, MD; Bruce A. Perler, MD; Martin I. Resnick, MD; Jerome Richie, MD; Edward Priest II, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline. It is a revision of a previously issued version (Appropriateness criteria for percutaneous catheter drainage of infected intra-abdominal fluid collections. Reston [VA]: American College of Radiology [ACR]; 1996. 9 p.).

An update is not in progress at this time.

The American College of Radiology Appropriateness Criteria™ are reviewed after five years, if not sooner, depending upon introduction of new and highly significant scientific evidence. The next review date for this topic is 2004.

GUIDELINE AVAILABILITY

Electronic copies: Available (in Portable Document Format [PDF]) from the [American College of Radiology \(ACR\)](#).

Print copies: Available from ACR, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on March 28, 2002. The information was verified by the guideline developer on May 28, 2002.

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